UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,660	11/29/2000	Robert E. Zeman	81695N-R	9591

7590	08/11/2005

Patent Legal Staff
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EXAMINER
MILIA, MARK R

ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 May 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *5/27/05* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's amendment was received on 5/27/05, and has been entered and

made of record. Currently, claims 1-25 are pending.

Response to Arguments

2.   Applicant's arguments filed 5/27/05 have been fully considered but they are not

persuasive.

In response to applicant's arguments regarding the rejection of claims 1-25, more

specifically claim 1, wherein on pages 1 and 2, the applicant asserts that the reference

of Mikkelsen does not disclose providing cutting instructions on the sheet within the

pictorial image. The Examiner respectfully disagrees with the applicant because the

reference of Mikkelsen does disclose such a feature. Particularly, Mikkelsen specifically

states that registration marks are printed at and about the graphics area, which can be

inside or outside of the graphic area, and are used to instruct the cutting of the graphic

area (see column 3 lines 10-25 and column 4 lines 14-22). Further, claim 1 states,

"providing information for cutting the sheet with the printed pictorial image". This does

not explicitly imply that the cutting information is part of the pictorial image and

Mikkelsen discloses providing information for cutting the sheet (see column 3 lines 10-

58). The registration marks as disclosed in Mikkelsen are needed to correctly and

accurately cut the sheet containing the graphic area because they act as a guide that

are sensed by the sensors to ensure proper cutting, and as such act as instructions for

cutting. The secondary reference of Daly discloses the embedding of invisible

information in an image. The combination of Daly with Mikkelsen is used to show that

information of any kind, including cutting information, can be embedded invisibly in an

image and used to activate and execute some other process.

3.   Therefore, the rejection of claims 1-25, as cited in the Office Action dated

3/23/05, under 35 U.S.C. 103(a), is maintained and repeated in this Office Action.

Claim Rejections - 35 USC § 103

4.   The text of those sections of Title 35 U.S. Code not included in this Office Action

can be found in a prior Office Action.

5.   Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Patent No. 6772661 to Mikkelsen et al. in view of U.S. Patent No. 5859920 to Daly

et al. as cited in Information Disclosure Statement dated April 26, 2004.

Regarding claim 1, Mikkelsen discloses a method of printing an image on a sheet

comprising providing digital image data representing a pictorial image to be printed on

the sheet in hard copy form (see Fig. 2 and column 4 lines 6-9), providing information

for cutting the sheet with the printed pictorial image (see column 2 lines 26-30 and 38-

41, column 3 lines 10-25, column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 45-

57), and employing the digital image data and the information for cutting the sheet to

print the pictorial image on the sheet with cutting instructions being printed so as to be

embedded in the printed pictorial image, the cutting instructions being dispersed within

the pictorial image and not located at locations where cutting is to be made according to

the cutting instructions (see Fig. 2, column 2 lines 26-30 and 38-41, column 3 lines 10-

25, column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 45-57).

Mikkelsen does not disclose expressly the information for cutting the sheet being

embedded as *invisible* cutting instructions.

Daly discloses providing digital image data representing a pictorial image to be

printed on the sheet in hard copy form (see column 5 lines 38-47) and embedding

invisible digital information in a pictorial image to be printed (see column 5 lines 8-47).

Regarding claim 12, Mikkelsen discloses an apparatus for printing an image

comprising a processor of digital image data representing the pictorial image to be

printed on a sheet in hard copy form (see column 2 lines 37-41 and column 4 lines 3-9),

a processor for providing digital information for cutting the sheet with the printed pictorial

image thereon (see column 3 lines 10-39 and 59-63, column 4 lines 14-22 and 31-37,

and column 6 lines 45-57), a merging processor for merging the digital image data

representing the pictorial image and the digital information for cutting the sheet, the

digital information for cutting the sheet being encoded in a print of the pictorial image

(see Fig. 2, column 3 lines 10-39 and 59-63, column 4 lines 14-22 and 31-37, and

column 6 lines 45-57), and a printer responsive to the merged digital image data

representing the pictorial image and the digital information for cutting the sheet for

printing the pictorial image and the cutting instructions, the cutting instructions being

dispersed through the print and not being located at positions in the pictorial image

where cuts are to be made according to the cutting instructions (see column 3 lines 10-

44 and 59-63, column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 43-45).

Mikkelsen does not disclose expressly digital information encoded so as to be

invisible in a print of a pictorial image and merging the invisible encoded information

with the digital image to be printed.

Daly discloses digital information encoded so as to be invisible in a print of a

pictorial image and merging the invisible encoded information with the digital image to

be printed (see column 5 lines 8-47).

Regarding claim 13, Mikkelsen discloses forming a pictorial image having a

visible border on a sheet in hard copy form (see Fig. 2) and forming cutting information

within the pictorial image, the cutting information being present inward of the border of

the pictorial image and the cutting information representing information for cutting the

sheet at locations outward of the border (see column 3 lines 10-39 and 59-63, column 4

lines 3-9 and 14-22, and column 6 lines 45-57).

Mikkelsen does not disclose expressly forming invisible information within the

pictorial image.

Daly discloses expressly forming invisible information within the pictorial image

(see column 5 lines 8-30).

Regarding claim 21, Mikkelsen discloses a method of printing an image on a

sheet comprising providing digital image data representing a pictorial image to be

printed on the sheet in hard copy form, the digital image data further including coded

information for cutting the sheet that is embedded within the pictorial image (see Fig. 2,

column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 45-57), and employing the

digital image data with the information for cutting the sheet to print the pictorial image on

the sheet with cutting instructions being printed so as to be embedded in the printed

pictorial image, the cutting instructions being dispersed within the pictorial image and

not located at locations where cutting is to be made according to the cutting instructions

(see Fig.2, column 3 lines 59-63, column 4 lines 14-22 and 31-37, and column 6 lines

45-57).

Mikkelsen does not disclose expressly employing digital image data with

information embedded with invisible instructions encoded within a pictorial image to be

printed.

Daly discloses employing digital image data with information embedded with

invisible instructions encoded within a pictorial image to be printed (see column 5 lines

8-47).

Regarding claim 23, Mikkelsen discloses a method of printing an image on a

sheet comprising printing a pictorial image that includes coded information within the

printed image for cutting the sheet, and wherein the cutting information is dispersed

within the pictorial image and not located at locations where cutting is to be made

according to the cutting information (see Fig. 2, column 3 lines 59-63, column 4 lines

14-22 and 31-37, and column 6 lines 45-57).

Mikkelsen does not disclose expressly printing a pictorial image that includes invisible coded information.

Daly discloses printing a pictorial image that includes invisible coded information (see column 5 lines 8-47).

Mikkelsen & Daly are combinable because they are from the same problem solving area, embedding information in printed images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the invisible embedding of information within digital images of Daly with the system of Mikkelsen.

The suggestion/motivation for doing so would have been to improve accuracy in cutting around graphic areas and increase speed and efficiency of cutting around graphic areas (see column 2 lines 22-59 of Mikkelsen). Also, the image is not easily corrupted by content of defects (see column 4 lines 6-10 or Daly).

Therefore, it would have been obvious to combine Daly with Mikkelsen to obtain the invention as specified in claims 1, 12, 13, 21, and 23.

Regarding claim 2, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses wherein information for cutting is placed into digital form that is merged with processed digital image data representing the pictorial image to be printed (see column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 45-57). Daly also discloses merging digital information with processed digital image data representing an image to be printed (see column 5 lines 8-47).

Regarding claim 3, Mikkelsen and Daly disclose the system discussed in claim 2, and Mikkelsen further discloses wherein the information for cutting represents data that defines a center of the pictorial mage and a representation of a geometric figure or figures that provide information relative to the locations of cutting points (see column 3 lines 27-58, column 5 line 37-column 6 line 9, and column 6 line 65-column 7 line 27).

Regarding claim 4, Mikkelsen and Daly disclose the system discussed in claim 3, and Mikkelsen further discloses wherein the representation of the geometric figure or figures falls within the pictorial image but defines locations of cutting points external to the pictorial image (see column 3 lines 59-63 and column 4 lines 14-22).

Regarding claim 5, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses a printed image formed on a sheet and including cutting instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see Fig. 2 and column 6 lines 45-57). Daly further discloses a printed image formed on a sheet and including invisible instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see column 5 lines 8-47).

Regarding claim 6, Mikkelsen and Daly disclose the system discussed in claim 3, and Mikkelsen further discloses a printed image formed on a sheet and including cutting instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see Fig. 2 and column 6 lines 45-57). Daly further discloses a printed image formed on a sheet and including invisible instructions embedded as

coded information in a pictorial image and formed by the method of claim 1 (see column 5 lines 8-47).

Regarding claim 7, Mikkelsen and Daly disclose the system discussed in claim 4, and Mikkelsen further discloses a printed image formed on a sheet and including cutting instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see Fig. 2 and column 6 lines 45-57). Daly further discloses a printed image formed on a sheet and including invisible instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see column 5 lines 8-47).

Regarding claim 8, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses including sensing the embedded cutting instructions and automatically positioning the pictorial image relative to a cutting mechanism and cutting the sheet in accordance with the cutting instructions (see column 3 lines 10-25 and 32-39, and column 6 line 33-column 7 line 36). Daly further discloses embedding invisible instructions (see column 5 lines 8-47).

Regarding claim 9, Mikkelsen and Daly disclose the system discussed in claim 4, and Mikkelsen further discloses including performing a calculation relative to virtual displacements of points on the geometric figure from the center of the image and using that calculation to determine cutting locations outside of the pictorial image and cutting the sheet in accordance with the determined cutting locations (see Fig. 2, column 3 lines 10-58, column 4 lines 3-9, 14-22, and 31-37, column 5 line 37-column 6 line 9, and column 6 line 65-column 7 line 44).

Regarding claim 10, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses wherein the information for cutting represents data that defines a center of the pictorial mage and a representation of a geometric figure or figures that provide information relative to the locations of cutting points (see column 3 lines 27-58, column 5 line 37-column 6 line 9, and column 6 line 65-column 7 line 27).

Regarding claim 11, Mikkelsen and Daly disclose the system discussed in claim 10, and Mikkelsen further discloses wherein the representation of the geometric figure or figures falls within the pictorial image but defines locations of cutting points external to the pictorial information (see column 3 lines 59-63 and column 4 lines 14-22).

Regarding claim 20, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses a sheet including a plurality of printed images formed on the sheet and at least plural of the pictorial images including cutting instructions embedded as coded information in a respective pictorial image and formed by the method of claim 1 (see Fig. 2, column 3 lines 59-63, column 4 lines 14-22, and column 6 lines 45-57). Daly further discloses pictorial images including invisible instructions embedded as coded information (see column 5 lines 8-47).

Regarding claim 14, Mikkelsen and Daly disclose the system discussed in claim 13, and Mikkelsen further discloses including automatically sensing the cutting information and cutting the sheet in accordance with the cutting instructions (see column 3 lines 10-25 and 32-39 and column 6 line 33-column 7 line 36).

Regarding claim 15, Mikkelsen and Daly disclose the system discussed in claim 14, and Mikkelsen further discloses wherein the cutting instructions define a center of

the pictorial image and a virtual representation of a geometric figure (see column 3 lines

10-39, column 5 line 37-column 6 line 9, and column 7 lines 8-44).

Regarding claim 16, Mikkelsen and Daly disclose the system discussed in claim

15, and Mikkelsen further discloses wherein the cutting instructions define virtual

representations of plural geometric figures and calculations are made using such

instructions to define locations outward of the border (see Fig. 2, column 3 lines 59-63,

column 4 lines 14-22, column 6 lines 45-57, and column 7 lines 37-44).

Regarding claim 17, Mikkelsen and Daly disclose the system discussed in claim

13, and Mikkelsen further discloses wherein plural pictorial images are formed on the

sheet in hard copy form and at least plural of the pictorial images have respective

cutting information formed within the respective pictorial image (see Fig. 2, column 3

lines 59-63, and column 6 lines 45-57). Daly further discloses invisible information

formed within the pictorial image (see column 5 lines 8-47).

Regarding claim 18, Mikkelsen and Daly disclose the system discussed in claim

17, and Mikkelsen further discloses a sheet including a plurality of printed images

formed on the sheet and at least plural of the pictorial images include cutting

instructions embedded as coded information in a respective pictorial image and formed

by the method of claim 17 (see Fig. 2, column 3 lines 59-63, and column 6 lines 45-57).

Daly further discloses printed images formed on a sheet including invisible instructions

embedded as coded information (see column 5 lines 8-47).

Regarding claim 19, Mikkelsen and Daly disclose the system discussed in claim

18, and Mikkelsen further discloses wherein the cutting instructions are dispersed within

the respective pictorial image and not located at locations where cutting is to be made

according to the cutting instructions (see column 4 lines 14-22). Daly further discloses

invisible instructions dispersed within the pictorial image (see column 5 lines 8-47).

Regarding claim 22, Mikkelsen and Daly disclose the system discussed in claim

13, and Mikkelsen further discloses including the step of forming cuts in the sheet in

accordance with the cutting instructions (see column 6 line 33-column 7 line 44).

Regarding claim 24, Mikkelsen and Daly disclose the system discussed in claim

23, and Mikkelsen further discloses a printed image formed on a sheet and including

cutting information embedded as coded information in a pictorial image and formed by

the method of claim 23 (see Fig. 2 and column 6 lines 45-57). Daly further discloses a

printed image formed on a sheet including invisible information embedded as coded

information (see column 5 lines 8-47).

Regarding claim 25, Mikkelsen and Daly disclose the system discussed in claim

23, and Mikkelsen further discloses including the step of forming cuts in the sheet in

accordance with the cutting information (see column 6 line 33-column 7 line 44).

Mikkelsen & Daly are combinable because they are from the same problem

solving area, embedding information in printed images.

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the invisible embedding of information in digital images of Daly

with the system of Mikkelsen.

The suggestion/motivation for doing so would have been to improve accuracy in

cutting around graphic areas and increase speed and efficiency of cutting around

graphic areas (see column 2 lines 22-59 of Mikkelsen). Also, the image is not easily

corrupted by content of defects (see column 4 lines 6-10 or Daly).

Therefore, it would have been obvious to combine Daly with Mikkelsen to obtain

the invention as specified in claims 2-11, 14-20, 22, and 24-25.

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Mark R. Milia whose telephone number is (571) 272-

7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached at (571) 272-7402. The fax number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark R. Milia
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